IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

SLOAN VALVE COMPANY A Delaware corporation, Plaintiff, vs. ZURN INDUSTRIES, INC. A Delaware corporation and ZURN INDUSTRIES, LLC A Delaware limited liability company, Defendants.	Case No. 1:10-cv-00204 Judge: Hon. Amy J. St. Eve Magistrate Judge: Hon. Sidney I. Schenkier

REDACTED

BRIEF IN SUPPORT OF DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

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PRELIMINARY STATEMENT

Defendants Zurn Industries, Inc. and Zurn Industries, LLC (collectively "Zurn") file this motion for summary judgment asking the Court to grant Zurn summary judgment on the following issues: literal infringement, infringement under the doctrine of equivalents, willfulness, best mode, lost profits, entire market value rule, price erosion and provisional remedies.

Plaintiff Sloan Valve Company ("Sloan") alleges that Zurn's dual flush products ("the accused devices") infringe certain claims in U.S. Patent No. 7,607,635 ("the '635 Patent") (SUF 1-4). In order for Sloan to prove its claim, it must establish that the accused devices have horizontal and angled axes of plunger travel. However, the undisputed facts show that Sloan cannot establish that the accused devices have the recited axes of plunger travel because it acknowledges that the accused devices' bushings flex, and a flexible bushing cannot have a horizontal axis of plunger travel. Additionally, an arbitrary portion of a plunger travel path, which Sloan now contends satisfies those claim limitations, is not an axis of plunger travel as recited in the claims. Sloan alternatively asserts infringement under the doctrine of equivalents, but is foreclosed from asserting equivalence of the accused products by prosecution history estoppel, claim vitiation, and the prior art. Accordingly, Zurn is entitled to summary judgment of non-infringement.

Not only do the accused devices not infringe any of the asserted claims, these claims are invalid for failure to disclose the best mode pursuant to 35 U.S.C. § 112, first paragraph. At the time that Sloan filed its patent application (U.S. Patent Application No. 11/211,273, hereinafter referred to as the "Wilson Application"), it had possession of certain angles within the bushing passage that it intended to use and an optimal flush volume reduction, but failed to disclose even

one angle or the flush volume reduction in its patent application (SUF 48-72), thereby failing to comply with the best mode requirement. As such, Zurn is entitled to summary judgment of invalidity.

Part of Sloan's claim is based on an unsupported allegation that Zurn copied Sloan's Uppercut®, and therefore willfully infringed the patent (SUF 1). The undisputed evidence shows that Zurn developed its manual dual flush handle independently (SUF 44; *see also* Zurn's *Daubert* Motion to Exclude Testimony of Michael C. Thuma), and Sloan cannot establish that Zurn's defenses to patent infringement are without merit. Moreover, Sloan's failure to seek a temporary injunction precludes any assertion of willfulness. For these reasons, summary judgment in favor of Zurn should be entered with respect to Sloan's willful infringement claim.

Sloan purports to base its compensatory damages case on a reasonable royalty theory, but a closer review reveals that Sloan has attempted to obtain lost profits and has attempted to increase its damage reward by calculating the amount Sloan would have agreed to accept by totaling Sloan's lost profits based on all of Zurn's sales of accused devices. What this means is that although Bero, Sloan's damages expert, expresses Sloan's damages in the form of a per-unit royalty, Sloan actually seeks to recover lost profits. Nor is Sloan entitled to damages for every accused device Zurn sold during the "provisional rights" period, before the '635 Patent issued. Because Sloan is not entitled to lost profits generally, and is specifically barred by law and undisputed facts from including in its damages computation several of the lost profits components Bero uses in his calculations, the Court should enter summary judgment on damages in Zurn's favor.

STATEMENT OF FACTS

In the '635 Patent, Sloan claimed that it invented a "dual mode" flushometer (SUF 17-19). The specification describes the invention in terms of a specific geometry of the bushing passage, *inter alia*, but does not disclose any of the critical parameters in the prototypes Sloan had at the time (e.g. the angle of the titled portion or the optimal amount of water used in the reduced flush) (SUF 48-72). Even though Sloan never studied the path on which the plunger travels through the bushing (SUF 70), all of the claims in the '635 Patent were eventually amended to claim the invention in terms of plunger travel axes, not the geometry of the bushing passage (SUF 17-21 & 75). Sloan initially contended that Zurn's dual flush products infringe the asserted claims because the geometry of the bushing passage is similar to the geometry disclosed in the '635 patent (SUF 25 & 26). In April of 2013, after recognizing that the plunger does not travel along the top or bottom of the bushing wall, Sloan's expert, Julius Ballanco, argued that he could simply use any arbitrary portion of the path to find a horizontal axis and an angled axis of plunger travel (SUF 31 & 34-36).

I. BACKGROUND REGARDING FLUSHOMETERS

Flushometers are mechanical devices that have existed for decades. When a user actuates a handle, the actuation of the handle applies force to the plunger, which in turn causes the plunger to travel through a bushing passage and contact a relief valve stem. The relief valve then unseats (i.e. breaks the water-tight seal). Since there is water in the chamber above the relief valve, but no water in the chamber below the relief valve, water begins to flow from the above-chamber through the below-chamber until the difference in water pressure equalizes and permits the relief valve to reseat. The amount of water that flushes through the system is dependent on many factors. These factors include (but are not limited to) water pressure, the diaphragm, the

horizontal distance of plunger travel, and the vertical point where the plunger contacts the relief valve stem (SUF 14-16).

In order to allow a plunger to slide through the bushing passage, the plunger must be smaller than the hole through which it slides. As a consequence, even prior art flush valves exhibit variation in flush volume between an upward and downward actuation because, due to the size discrepancy, the plunger travels along different paths and contacts the relief valve stem at different vertical points when actuated up versus down (SUF 13).

The '635 Patent is not the first patent directed to a manual dual flush flushometer. For example, in 1956, Filliung obtained a patent on a dual flush valve that uses several of these principles, include changing the vertical contact point of the plunger on the relief valve stem (SUF 16). In 1979, Walker obtained a patent on a dual flush valve using the concept that if one shortens the horizontal distance that the plunger travels, one will reduce the amount of water that is flushed (SUF 15).

II. THE '635 PATENT ASSUMES THAT THE BUSHING PASSAGE AND THE PLUNGER TRAVEL SHARE COMMON AXES.

Before filing a patent application, Sloan made an announcement about its Uppercut®, a 1.6/1.1 gpf dual mode flushometer that had a specific angle in the tilted portion (SUF 54 & 62). About three weeks later, Sloan filed U.S. Patent Application No. 11/211,273 directed to a dual mode flush valve (SUF 73). The invention is described as having a passage defined by first and second bores that partially overlap (SUF 47). The first bore is horizontal and the second bore is considered to be a tilted portion of the bushing passage (SUF 47). The application did not contain any information regarding the angle of the tilted portion in the bushing, the parameters

for the opening of the bushing, the application to 1.6 gpf valves, or the flush volume reduction when the handle is actuated upward (SUF 49 & 65-68).

During prosecution, the examiner found that defining the invention in terms of first bore and second bore was indefinite (SUF 75). In response, Sloan deleted references to these bores and defined the invention in terms of axes on which the plunger travels (SUF 75). However, Sloan did not know how the plunger travels through the bushing (SUF 70). Instead, it assumed that the plunger travels along the top wall of the bushing when the handle is actuated down and along the bottom wall of the bushing when the handle is actuated up (SUF 70, 71).

During claim construction, Sloan asked that the Court construe the claims so that the invention was once again defined in terms of the bushing passage, just as it had been prior to the amendments during prosecution (Dkt. 326 at 15-16). However, the Court construed "axis of plunger travel" to mean "axis on which the plunger travels" (SUF 20, Dkt. 391 at 40). The Court also construed the term "plunger mounted for sliding and tilting," a term that appears in every asserted claim except for claims 12 and 14, to mean "mounted so the plunger is capable of sliding along the horizontal axis and tilting and sliding along an axis of plunger travel that is at an angle to the horizontal axis" (SUF 88, Dkt. 391 at 40).

Even though the claims were construed to define the invention in terms of the axes of plunger travel, not the "bores" in the bushing passage, Sloan's final contentions claimed that Zurn's accused products have two cylindrical bores defining two axes of plunger travel wherein one bore is at an angle to the other bore (SUF 25, 85).

III. SLOAN AGREES THAT THE PLUNGER TRAVEL AXES IN THE ACCUSED PRODUCT ARE NOT AS CLAIMED IN THE '635 PATENT.

During reexamination of the '635 Patent and in order to overcome a rejection of claim 12 over the patent to Billeter, Sloan specifically argued that if the bushing of a handle is flexible, then "the plunger should not exhibit a horizontal axis of travel from either the upward or downward flush" (SUF 82). Sloan's experts have acknowledged that the accused devices have a flexible bushing (SUF 24). Sloan's technical expert Julius Ballanco further agrees, and claim language in a subsequent patent application filed by Sloan directed to dual mode flushometers demonstrates, that the assumption concerning plunger travel made in '635 Patent was wrong (SUF 36-39, 72). In his initial report (Ballanco Report I), Ballanco provides an opinion as to the angle of the bushing walls in the accused products, but does not provide any opinion as to the actual angle of plunger travel (SUF 26). He opines that "[w]hen the handle is pushed down, the plunger tends to follow the upper bushing wall, which is at a substantially horizontal angle [0.213°], resulting in the plunger traveling along a substantially horizontal axis. Conversely, when the handle is pulled up, the plunger tilts and tends to follow the lower bushing wall, which is at an approximate angle of 0.817°, resulting in the plunger traveling along an axis that is angled downward in relation to the horizontal axis of plunger travel" (SUF 26). Ballanco further opined that anything less than 0.3° is substantially horizontal (SUF 29).

Although Ballanco Report I contained plunger travel diagrams (SUF 27), Ballanco did not calculate any of the angles within this data (SUF 26 & 27). Zurn's expert, Richard Magee, Ph.D., took the data from the plunger travel diagrams and calculated the angle between the start point and end point (after the initial displacement) (SUF 30). Although Magee opined that the plunger travel paths depicted in Ballanco Report I were non-linear, the angle that he calculated

for a line drawn from 0.025" to 0.200" of plunger travel was greater than the 0.3° horizontal threshold Ballanco asserted (SUF 29 & 30).

In his later report (Ballanco Report II), Ballanco agreed that the plunger travel data that Made-To-Measure provided does not show a single horizontal axis of plunger travel that provides a flush volume (SUF 37). However, Ballanco opined that if one selects an arbitrary segment of .019" (less than 10% of the overall plunger travel path length), one can find a portion of the path that is a horizontal axis of plunger travel (i.e. having an angle less than 0.3°) (SUF 28, 34 & 36). Presumably, Ballanco likewise opines that an arbitrary portion of the path the plunger travels when the handle is actuated in the upward direction can constitute an angled axis of plunger travel (SUF 38).

ARGUMENT

Summary judgment is appropriate in patent cases if the requirements of Rule 56(c) are satisfied. *Intellectual Prop. Dev't. Inc. v. UA-Columbia Cablevision of Westchester Inc.*, 336 F.3d 1308, 1322 (Fed. Cir. 2003) (affirming summary judgment of noninfringement); *C.R. Bard Inc. v. Advanced Cardiovascular Inc.*, 911 F.2d 670, 672 (Fed. Cir. 1990). Summary judgment should be granted when "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." FED.R.CIV.P. 56(c). It is the non-moving party's burden to present specific facts demonstrating a genuine issue of material fact. *Matsushita Elec. Indus. Co. Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 585-86 (1986). This requires more than merely citing pleadings, and instead requires the non-moving party to make specific factual allegations demonstrating a genuine issue for trial. The non-

moving party :must present sufficient evidence to show the existence of each element of its case on which it will bear the burden at trial." *Filipovic v. K & R Express Sys. Inc.*, 176 F.3d 390, 395 (7th Cir. 1999), see also *Celotex Corp. v. Catrett*, 477 U.S. 317, 324 (1986).

I. SLOAN CANNOT ESTABLISH THAT THE ACCUSED DEVICES INFRINGE THE CLAIMS.

Two ways that a patentee can establish that there is infringement is by showing that the accused product literally infringes a valid claim in the patent, or that there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented invention. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997); *Rohm & Haas v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997). A determination of patent infringement requires a two-step analysis. The court must first interpret the claims to determine their scope and meaning. *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1273 (Fed. Cir. 2004). Once the court has construed the claim limitations, the second step is to apply the claims to the accused device. *Id.* To support summary judgment of noninfringement Zurn must establish that, using the correct claim construction, no reasonable jury could have found infringement on the undisputed facts or when all reasonable factual inferences are drawn in favor of Sloan. *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1353 (Fed. Cir. 2001).

Sloan cannot demonstrate literal infringement because the data does not show that the accused devices have a horizontal axis or an angled axis of plunger travel. Sloan admits that the bushings in the accused devices are flexible, and any handle with a flexible bushing does not have a horizontal axis of plunger travel (SUF 24 & 82). While Sloan contends that one can draw a straight line through two arbitrarily selected data points within the path of travel (SUF 28, 34 & 36), those arbitrarily selected points do not amount to an "axis on which the plunger travels" as the Court has defined that term (*see* Dkt. 391 at 40). Moreover, Sloan's attempt to assert that a

substantially horizontal path is equivalent to a horizontal axis must fail because Sloan is limited under the doctrine of prosecution history estoppel, the alleged equivalent would improperly vitiate a claim limitation and would read on the prior art.

A. Sloan cannot establish that the accused devices literally infringe any of the asserted claims in the '635 Patent.

There can be no literal infringement if the accused product does not contain each and every limitation of the asserted claims. *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1369 (Fed. Cir. 2009). If there is no dispute over the structure of the accused products, then the question of infringement collapses into the question of claim construction, and it may be resolved by the court on summary judgment. *Desper Prods. Inc. v. QSound Labs Inc.*, 157 F.3d 1325, 1332-33 (Fed. Cir. 1998). Because Sloan bears the burden of proof, Zurn need only show an absence of evidence to support Sloan's infringement claim. *Celotex*, 477 U.S. at 325. To avoid summary judgment, Sloan must present specific facts showing that there is a genuine issue for trial, and cannot rely on general assertion of facts, general denials and conclusory statements. *Matsushita Elec. Indus.*, 475 U.S. at 587, quoting FED. R. CIV. P. 56(2); *Phillips Petroleum Co. v. Hunstman Polymers Corp.*, 157 F.3d 866, 876 (Fed. Cir. 1998).

Sloan acknowledges that if the bushing of a handle is flexible, then "the plunger should not exhibit a horizontal axis of travel from either the upward or downward flush" (SUF 82). Sloan's experts have acknowledged that the accused devices have a flexible bushing (SUF 24). As such, the accused devices cannot have a horizontal axis of plunger travel, and cannot infringe any of the asserted claims, all of which require a horizontal axis of plunger travel (SUF 20).

For the purposes of this motion, Zurn does not dispute the accuracy of Sloan's plunger travel data found in the April report of Sven Bley (Bely Report II), at Exhibit G. Based on this

data, Zurn should be granted summary judgment on literal infringement because Sloan's expert, who now contends that arbitrary *portions* of the plunger travel path show a horizontal axis and an angled axis (SUF 28, 34 & 36), has either misunderstood or misapplied the Court's claim construction with respect to the "axis of plunger travel" limitation and the claimed modifier "providing a [first or second] flush volume of water."

1. The asserted claims require a "first [horizontal] axis of plunger travel providing a first [full] flush volume of water" and a "second [angled] axis of plunger travel providing a second [reduced] flush volume of water."

Claim 1, which is a representative claim (Dkt. 391 at 19), recites:

> A dual mode flush valve, comprising a body having an inlet and an outlet, a valve seat between said inlet and outlet, a valve member movable to a closing position on said valve seat to control water flow between said inlet and outlet, a pressure chamber defined in said body above said valve member, a relief valve mounted on the valve member for movement between seated and unseated positions which close and open the pressure chamber, respectively, a handle assembly mounted on the body an including an actuatable handle, a bushing having a passage defined therethrough and a plunger slidably and tiltably mounted in said bushing passage, the plunger having an outer end in engagement with the handle and an inner end engageable with the relief valve, the plunger being movable to unseat the relief valve, the bushing passage defining the passage defining both **a first axis of plunger travel** and **a second axis of plunger travel** which is angled, with respect to the first axis of plunger travel, wherein tilting of the handle in a first direction moves the plunger along **the first axis of plunger travel providing a first flush volume of water adequate to evacuate solid waste** and tilting of the handle in a second direction tilts the plunger and moves the plunger along **the second axis of plunger travel providing a second flush volume of water adequate to evacuate liquid waste.** (Emphasis added). (SUF 17).

The asserted claims require two independent axes of plunger travel: a horizontal axis (providing a first flush volume of water adequate to evacuate solid waste,) and an angled axis (providing a second flush volume of water adequate to evacuate liquid waste)[1] (SUF 17-20).

2. There is no evidence demonstrating that the accused devices have the recited horizontal axis or angled axis of plunger travel.

During reexamination of the '635 Patent and in order to overcome a rejection of claim 12 over the patent to Billeter, Sloan specifically argued that if the bushing of a handle is flexible, then "the plunger should not exhibit a horizontal axis of travel from either the upward or downward flush" (SUF 82). Sloan's experts have acknowledged that the accused devices have a flexible bushing (SUF 24), thus the accused devices cannot have a horizontal axis of plunger travel.

Nowhere in the claims, specification, or drawings, is it recited or disclosed that an "axis of plunger travel" is a non-linear path of travel, or even that the "axis of plunger travel" is a "best-fit line" that is representative of the entire path the plunger travels, much less that any two points within the plunger travel path can constitute an axis of plunger travel. Sloan intends to support its claims that the accused device has a horizontal axis of plunger travel and an angled axis of plunger travel through testimony from Julius Ballanco, Sloan's only designated expert for literal infringement. For the reasons discussed in the accompanying *Daubert* Motion directed to Ballanco, Ballanco's testimony and opinions regarding plunger travel should be excluded, *see*

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1 Each of the asserted claims recites a "plunger mounted for sliding and tiling", "tilting the inner end of the plunger", or a "horizontal axis of plunger travel." The Court has construed "plunger mounted for sliding and tilting" and "tilting the inner end of the plunger" to require a horizontal plunger travel axis. See Dkt. 391 at 40.

Ballanco *Daubert* at 10-14, Sloan's theory of literal infringement necessarily fails, and Zurn is entitled to summary judgment of no literal infringement.

Moreover, the defining attribute of the respective "axis of plunger travel" limitations is that the axes provide differing flush volumes of water depending on whether the axis of plunger travel is a horizontal or an angled one (SUF 18). The asserted claims do not recite "providing a first [full] flush volume" or "providing a second [reduced] flush volume" as independent results, but rather as modifiers of the structural limitations "first [horizontal] axis of plunger travel" and "second [angled] axis of plunger travel", respectively. By definition, a portion of the plunger travel path cannot be an axis of plunger travel providing a full or reduced flush volume because that partial travel path never results in a full or reduced flush volume. The claims require that the axes of plunger travel provide either a full or reduced flush volume, and Ballanco has acknowledged the reason the graph in Ballanco Report I "is cut off after 0.200 inches in the x-direction is because the relief valve clears the plunger by that point and the plunger's job is done" (SUF 28). Therefore, by Ballanco's own admission, the plunger's job is not done until the relief valve clears the plunger, i.e., until the plunger travels far enough to provide a full or reduced flush volume. Sloan cannot now argue that a portion of the axis of plunger travel in which the plunger has not completed its job and which does not provide a full or reduced flush volume constitutes an axis of plunger travel for infringement purposes.

The recitation of "comprising" in the transitional phrase of the claims does not alter the foregoing analysis. Even if the asserted claims would read on a device with a non-linear plunger travel path, the claims require a first [horizontal] axis that provides a first [full] flush volume and a second [angled] axis that provides a second [reduced] flush volume, the plunger's travel path constitute the full "axis of plunger travel." Sloan's interpretation of the "axis of plunger travel"

limitation would render the claims indefinite because if any two points on the plunger travel path could be used to define an axis of plunger travel, whether or not the path actually traveled by the plunger between those two points provided a full or reduced flush volume, this limitation would be devoid of all meaning. A construction that deprives a structural claim limitation of all meaning is impermissible.

> Allowing a patentee to argue that physical structures and characteristics specifically described in a claim are merely superfluous would render the scope of the patent ambiguous, leaving examiners and the public to guess about which claim language the drafter deems necessary to his claimed invention and which language is merely superfluous, non-limiting elaboration. For that reason, claims are interpreted with an eye toward giving effect to all terms in the claim. *Bicon, Inc. v. The Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006).

The Court's construction is clear (Dkt. 391 at 40). An axis of plunger travel is the axis on which the plunger travels, and that axis of plunger travel must provide either a full or a reduced flush (*see, e.g.,* the '635 Patent at claim 1). Any portion thereof that does not, by itself, effectuate a full or reduced flush volume cannot constitute an axis of plunger travel.

Not only does Ballanco turn a blind eye to the undisputed fact that a flushometer with a flexible bushing cannot have a horizontal axis of plunger travel (*see supra*), he misapplies the Court's construction of the claim by focusing solely on result and not on the recited claim limitations. Ballanco incorrectly assumes that the plunger generally travels along either the bottom or top of the bushing passage when the handle is actuated up or down, respectively, and therefore the "axis of plunger travel" equal the angle of the bushing wall. (SUF 26). By Ballanco's own definition of "substantially horizontal," the "horizontal axis of plunger travel is greater than 0.3° and therefore is not horizontal. (SUF 29, 30 and 33) Furthermore, Ballanco's arbitrarily selected portion of the path misapplies the "axis of plunger travel" limitation because,

as discussed above, a portion of a path does not provide a first [full] flush volume, or a second [reduced] flush volume of water.

Accordingly, Zurn is entitled to summary judgment that the accused device does not literally infringe the asserted claims of the '635 Patent.

B. Sloan cannot use the doctrine of equivalents to establish infringement.

As an alternative to literal infringement, Sloan claims infringement under the doctrine of equivalents, asserting that even if the path in the accused devices is not horizontal, it is allegedly substantially horizontal, which its expert asserts is defined by being less than 0.3° (SUF 29 & 40-42). As a matter of law, this claim should be dismissed because Sloan's position (1) is barred by the doctrine of prosecution history estoppel; (2) is unsupported and improperly vitiates a claim limitation; and (3) improperly results in a claim that reads on the prior art.

"Although equivalence is a factual matter normally reserved for a factfinder, the trial court should grant summary judgment in any case where no reasonable factfinder could find equivalence." *Sage Prods. v. Devon Indus., Inc.*, 126 F.3d 1420, 1423 (Fed. Cir. 1997). Prosecution history estoppel may limit a patentee from using the doctrine of equivalents to establish infringement. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki,* 344 F.3d 1359, 1366-1367 (Fed. Cir. 2003). Even if Sloan is not so limited, Sloan must show that their application of the doctrine of equivalents vis-à-vis the function-way-result test does not vitiate a claim term. *Warner-Jenkinson,* 520 U.S. at 29; *Deere & Co. v. Bush Hog, L.L.C.*, 703 F.3d 1349, 1356 (Fed. Cir. 2012). Vitiation of a term occurs when no reasonable fact-finder could find that the claimed element and the proposed equivalent are in fact equivalents. *Deere & Co.*, 703 F.3d at 1356. Even if the application of the doctrine of equivalents does not amount to vitiation, it

cannot be used to broaden the scope of an element if such broadening would read on the prior art. *Energy Transportation Group, Inc v. William Demant Holding*, 697 F.3d 1342, 1354 (Fed. Cir. 2012); *Streamfeeder, L.L.C. v. Sure-Feed Sys., Inc.*, 175 F.3d 974, 982-983 (Fed. Cir. 1999) (stating that the doctrine of equivalents cannot be used where the equivalent would read on the prior art or obvious variants of the prior art).

1. Since Sloan amended the claims and made arguments to overcome the prior art, Sloan is estopped from applying the doctrine of equivalents to the term "axis of plunger travel".

Sloan narrowed the scope of the asserted claims through its amendments and arguments made during prosecution and reexamination of the '635 Patent (SUF 75-84). These amendments and arguments were made for reasons substantially related to patentability (SUF 75-84). Accordingly, Sloan is limited in applying the doctrine of equivalents as to those elements because it surrendered the purported equivalent during prosecution. *Festo*, 344 F.3d at 1367.

Sloan narrowed the scope of available equivalents through its arguments, which evinced a "clear and unmistakable surrender of subject matter." *Pods, Inc. v. Porta Stor, Inc.*, 484 F.3d 1359, 1367 (Fed. Cir. 2007) (internal citation omitted); *see also Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1363 (Fed. Cir. 2012) (noting that it is a "well-recognized principle" that arguments made during prosecution can affect claim scope). To overcome a prior art rejection based on Billeter during reexamination, Sloan specifically argued that if the bushing of a handle is flexible, then "the plunger should not exhibit a horizontal axis of travel from either the upward or downward flush" (SUF 82). Sloan's experts acknowledge that the accused devices have a flexible bushing (SUF 24). Thus, Sloan is foreclosed from asserting that either of the paths on which the plunger in the accused devices travels are equivalent to a horizontal axis. *Pods,* 484 F.3d at 1367-68 (finding that a patentee surrendered scope of certain elements by

asserting that the claimed invention was "decidedly different" from a prior art patent with respect to those elements.). This Court has held similarly. *Papst Lic. GmbH & Co. KG v. Sunonwealth Elec. Mach. Ind. Co., Ltd.*, 332 F.Supp.2d 1142, 1149-1150 (N.D. Ill. 2004) (St. Eve, J.) (finding that in arguing that the claimed geometry differed from that of the prior art, argument-based estoppel precluded infringement under the doctrine of equivalents as to that surrendered geometry). Moreover, under the Court's construction, all of the asserted claims require a horizontal axis of plunger travel (SUF 20). Thus, estoppel applies to every claim in which "horizontal axis of plunger travel" is included. *Pods,* 484 F.3d at 1368 ("once an argument is made regarding a claim term so as to create an estoppel, the estoppel will apply to that term in other claims.") (internal citation omitted).

In addition to its limiting arguments, Sloan also amended the claims extensively during prosecution and reexamination. Claim 1 was amended to add: "tilting of the handle in a first direction moves the plunger along the first axis of plunger travel and tilting of the handle in a second direction tilts the plunger and moves the plunger along the second axis of plunger travel" (SUF 77). Claim 1 was further amended during reexamination to require that tilting of the handle in a first direction provides a first flush volume of water adequate to evacuate solid waste and that tilting the handle in a second direction provides a second flush volume of water adequate to evacuate liquid waste (SUF 83). Sloan amended claim 18 extensively in prosecution and reexamination, first to eliminate recitation of multiple bores due to the indefiniteness of that terminology, and second to define the bushing in terms of it being configured to accommodate tilting of the first end of the plunger and pivoting of the plunger, and finally to recite that, as with claim 1, moving the handle in a second direction causes the plunger to tilt (SUF 76 & 78). These amendments narrowed the scope of the claims by defining the claims in terms of how the plunger

travels through the bushing, and not by geometry of the passage, and were made to overcome rejections under 35 U.S.C. §§ 102(b), 103(a) and 112 (SUF 76, 78 & 83). Thus, Sloan "surrendered all territory between the original claim limitation and the amended claim limitation." *Festo*, 344 F.3d at 1367.

The above amendments to the claims and arguments made during the reexamination of the '635 Patent narrowed the scope of protection available to Sloan by adding limitations that were not present in the originally-filed claims and by distinguishing the claims from the prior art by narrowing arguments (SUF 76-78, 82 & 83). *Pods,* 484 F.3d at 1367; *Festo*, 344 F.3d at 1366. The amendments and arguments were made for reasons substantially related to patentability and thus invoke estoppel (SUF 76-78, 82 & 83). *Festo*, 344 F.3d at 1366. Accordingly, Sloan "surrendered all territory between the original claim limitation and the amended claim limitation," and is foreclosed from arguing that the plunger path in the accused products is equivalent to a horizontal axis. *Pods,* 484 F.3d at 1368; *Festo*, 344 F.3d at 1367.

2. Sloan's application of the function-way-result test improperly vitiates the "horizontal axis of plunger travel" and "angled axis of plunger travel" claim terms and would read on the prior art.

Sloan asserts that to the extent that Zurn's accused products do not have a horizontal axis of plunger travel, they function in a similar manner to achieve a similar result (SUF 40-42). However, Sloan cannot assert the doctrine of equivalents by stating that a path is substantially equivalent to an axis, because Sloan cannot show that it was unable to claim a "path" rather than an "axis" (SUF 72). *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.,* 535 U.S. 722, 734 (2002). Sloan made an affirmative choice to claim the narrower "axis", which could have been more broadly claimed as a path (SUF 72 & 75), thus Sloan cannot utilize the doctrine of equivalents. *Sage Prods.*, 126 F.3d at 1424.

Further, Sloan cannot assert the doctrine of equivalents by generically stating the plunger in the Zurn product travels in a similar manner to achieve a similar result. *Warner-Jenkinson*, 520 U.S. at 29 ("the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole."). Rather, particularized evidence with regard to *each* of the function, way, and result is required. *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1327 (Fed. Cir. 1991). This particularized evidence must necessarily show "*why* the overall function, way, and result of the accused device are substantially the same as those of the claimed device." *Id.* (emphasis in original). It is settled law that each element of a claim is presumed to be material, and application of the doctrine of equivalents cannot be used to read limitations out of a claim. *Warner-Jenkinson*, 520 U.S. at 29.

Each of the asserted claims of the '635 patent requires a "horizontal axis of plunger travel" (SUF 20). Sloan attempts to sidestep the fact that the accused devices lack each element of the asserted claims by reading "horizontal axis of plunger travel" out of those claims and claiming that the plunger travel paths in the accused devices are "substantially horizontal" to the claimed axes (SUF 21, 40-42). This attempt is impermissible under settled law. *See, e.g., Deere & Co.*, 703 F.3d at 1356; *Malta*, 952 F.2d at 1327.

In Ballanco Report II, Sloan's expert makes only general statements concerning the doctrine of equivalents, and provides no data or opinion that would tend to support Sloan's theory of equivalence. Rather, after identifying that a range of 0.2-0.3 degrees would be considered "substantially level", Ballanco identifies that the angle of the plunger path following downward actuation of the handle is 0.47 degrees (SUF 33). In addition to admitting that the entire plunger path is not horizontal, Ballanco also acknowledges that the entire plunger path following downward actuation of the handle is not substantially horizontal (SUF 29, 33 & 37).

Sloan's own data shows that the plunger path of the accused product is not equivalent (as defined by Ballanco, i.e. less than 0.3°) to a horizontal axis. As such, there is no evidence that any plunger travel path having an angle greater than 0.3 degrees could be considered an equivalent to a horizontal axis, and Sloan's theory vitiates the element. *see Deere & Co.*, 703 F.3d at 1355-1356; *see also Wells-Gardner Elecs. Corp. v. C. Ceronix, Inc.*, No. 10 C 2536, 2011 U.S. Dist. LEXIS 42004, at *8 (N.D. Ill. April 14, 2011).

Moreover, to the extent that Sloan asserts that the plunger path when the handle is actuated downward is "substantially and essentially" horizontal,[2] claim 19 recites the limitation of a plunger travel axis disposed "substantially horizontally", and the use of different words in separate claims is presumed to impart a different scope. *Tandon Corp. v. U.S. Int'l Trade Comm'n,* 831 F.2d 1017, 1023 (Fed. Cir. 1987)); *Site Microsurgical Sys. v. Surgin Surgical Instrumentation*, 855 F.Supp. 1450, 1458-1459 (E.D. Pa. 1994) (granting summary judgment for defendant when patentee's doctrine of equivalents assertion ignored claim differentiation. In *Surgin*, patentee argued that a suction port in a lower housing was equivalent to the claimed limitation of a suction port in an upper housing. *Site Microsurgical*, 855 F. Supp. at 1458. However, one of the claims in the asserted patent did not specify a location for the suction port, thus the court found that the patentee's doctrine of equivalents argument impermissibly violated the principle of claim differentiation. *Id.* at 1458-1459. As such, Sloan cannot read the limitation "horizontal" to really mean "substantially horizontal", which is recited in claim 19. Any attempt to do so warrants a grant of summary judgment in Zurn's favor. *Id.* at 1459.

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[2] *See* Exh. 32, at 77, 94, 119, 140, 150, 166, 210, 220, 252, 296, and 311.

Sloan's assertion of the doctrine of equivalents is also impermissible because any broadening of the term "horizontal axis of plunger travel" to cover the non-linear path seen in the accused devices would read on the prior art. *See Energy Transportation Group*, 697 F.3d at 1354 (Fed. Cir. 2012); *see also Streamfeeder, L.L.C.*, 175 F.3d at 982-983. Specifically, with regard to any attempt by Sloan to broaden the terms "plunger mounted for sliding and tilting", "tilting the inner end of the plunger", and "axis of plunger travel" and "horizontal axis of plunger travel" as recited in claims 1, 4-8, 10-12, 14, 19, 29-31, and 33-34 to encompass plunger paths that are not "axes of plunger travel" as the Court has defined that term, Zurn has provided unrebutted evidence that the travel paths in prior art flush valves and the accused devices are similar (SUF 45). Any attempt by Sloan to expand the scope of the terms that concern "axes of travel" to cover paths of plunger travel would run afoul of the rule that the doctrine of equivalents cannot be used to expand the scope of a claim to the extent that it would read on prior art. *Energy Transportation Group*, 697 F.3d at 1354; *Streamfeeder, L.L.C.*, 175 F.3d at 982-983.

Moreover, Sloan has not even attempted to explain why, if the plunger travel paths of the accused products are equivalent to the axes required by the asserted claims, the plunger travel paths of the prior art handles are not likewise equivalent to the claim limitations (SUF 42); Magee Decl. (Exh. 54) at ¶¶ 2-5. Sloan's argument under the doctrine of equivalents would result in the asserted claims being obvious over prior art handles in view of the patent to Walker, which is an impermissible application of the doctrine of equivalents. *Energy Transportation Group*, 697 F.3d at 1354; *Streamfeeder, L.L.C.*, 175 F.3d at 982-983.

There are no genuine issues of material fact relating to Zurn's alleged infringement of the asserted claims of the '635 Patent. Sloan has previously distinguished the asserted claims over the prior art by asserting that a product with a flexible bushing would not have a horizontal axis

of plunger travel (SUF 82). Sloan's experts acknowledge that the accused devices have a flexible bushing (SUF 24). Only through use of improper claim construction can Sloan attempt to show literal infringement. Moreover, any attempt by Sloan to employ the doctrine of equivalents is limited by prosecution history estoppel and the doctrine of claim vitiation. Accordingly, Zurn respectfully requests that the Court grant Zurn's motion for summary judgment of non-infringement of claims 1, 4-8, 10, 12, 14, 19, 29-31, 33 and 34 of the '635 Patent and enter judgment in its favor and against Sloan.

II. SLOAN FAILED TO DISCLOSE THE BEST MODE OF THE INVENTION.

The first paragraph of 35 U.S.C. § 112 provides that a patent specification "shall set forth the best mode contemplated by the inventor of carrying out his invention." The best mode provision of the Patent Act requires an inventor "to disclose the best mode contemplated by him, as of the time he executes the application, of carrying out the invention." *Bayer AG & Bayer Corp. v. Schein Pharms., Inc.*, 301 F.3d 1306, 1314 (Fed. Cir. 2002) (citations omitted). The requirement to disclose the best mode of practicing the claimed invention precludes inventors "from applying for patents while at the same time concealing from the public the preferred embodiments of their inventions which they have in fact conceived." *In re Gay*, 309 F.2d 769, 772 (C.C.P.A. 1962). The best mode requirement governs despite the fact that full disclosure of the claimed invention may entail revealing potentially valuable trade secrets; such is the statutory, bargained-for exchange under U.S. patent law. *See, e.g., Wellman, Inc. v. Eastman Chemical Co.*, 642 F.3d 1355, 1362-65 (Fed. Cir. 2011) (holding that "[The inventor] had an obligation to adequately disclose the best mode of practicing this 'unlocked secret' under the best mode requirement, yet did not do so.").

The best mode analysis entails a two-prong inquiry. *AllVoice Computing PLC v. Nuance Communs., Inc.*, 504 F.3d 1236, 1246-47 (Fed. Cir. 2007). "First, the factfinder must determine whether, at the time of the filing of the application, the inventor possessed a best mode for practicing the invention.... Second, if the inventor possessed a best mode, the factfinder must determine whether the written description disclosed the best mode such that one reasonably skilled in the art could practice it." *Eli Lilly & Co. v. Barr Laboratories, Inc.*, 251 F.3d 955, 963 (Fed. Cir. 2001). In general, patents can be invalidated for failing to satisfy the best mode requirement in one of two ways: i) by failing to disclose the preferred embodiment of the invention as of the filing date; or ii) by failing to disclose aspects of making or using the claimed invention where the undisclosed matter materially affects the properties of the claimed invention. *Bayer*, 301 F.3d at 1319. The best mode inquiry proceeds on a claim by claim basis. *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 518 F.3d 1353, 1365 (Fed. Cir. 2008); *Engel Indus., Inc. v. Lockformer Co.*, 946 F.2d 1528, 1531 (Fed. Cir. 1991).

Prior to [redacted] (SUF 60-62). None of these parameters for practicing the claimed invention were disclosed in the patent application that was filed on August 25, 2005. John Wilson, the sole inventor of the '635 Patent, failed to comply with the best mode requirement, and, as a matter of law, the asserted claims should be found invalid under 35 U.S.C. § 112, first paragraph.

A. Through extensive trial and error, Wilson developed a preferred method of practicing the claimed invention well prior to filing of the *Wilson* application.

The first prong is subjective and depends on what the inventor actually believed to be the best mode of the invention as of the application's filing date. *Bayer*, 301 F.3d at 1314. Although the inventor need not disclose every personal preference for practicing the invention, "section 112 demands actual disclosure [of the best mode] regardless of whether, as an abstract matter, practicing that mode would be within the knowledge of one of ordinary skill in the art." *Id.* A mode "determined through experimentation or selection or trial and error" but not disclosed in the specification is probative evidence of concealment of the best mode, as is the omission of information that is essential to the practice of the invention. *High Concrete Structures, Inc. v. New Enterprise Stone and Lime Co.*, 377 F.3d 1379, 1384 (Fed. Cir. 2004).

In 2004, John Wilson proposed modifying Sloan's low-consumption (i.e., 1.6 gpf) manual flush valve handle to deliver [redacted] when the handle was actuated in the up direction. Initially, Wilson believed that a 50% flush volume reduction would be adequate to remove liquid waste from the bowl (SUF 46). Later, after extensive trial and error, Wilson narrowed in on a 30% reduction.

[redacted]

(SUF 51 & 55). Wilson further explained that the 30% flush volume reduction was achieved by boring out the bushing passage at a specific angle of 1°, and further testified:

(SUF 51 & 52). It is no coincidence that Wilson's preferred flush volume reduction of 30% and his fine-tuned bushing passage having a tilted portion having one degree angle are the salient features of Sloan's Uppercut product. Although the Court properly rejected Sloan's attempts to import the 30% limitation on the grounds that "the '635 Patent, including the specification and the words of the claims, makes no reference to either the 30% or the 10% limitation," Sloan argued extensively during claim construction that 30% was incorporated by reference in three separate claim terms. *See* Dkt. 391 at 18-22. That Sloan could argue during claim construction that Wilson intended to claim a 30% flush volume reduction and yet maintain that he did not have a subjective preference for a 30% reduction defies all logic.

Jim Allen highlighted Wilson's preferred 30% reduction in flush volume in a product announcement dated August 1, 2005, three weeks prior to the filing of the application. "The

[Uppercut®] handle will reduce the volume by 30% regardless of the gpf [gallons per flush] of the inside parts kit. In other words, for a 1.6 gpf kit the volume goes from 1.6 to 1.1 [gallons]" (SUF 54). Referring back to this announcement, Mr. Allen testified that the Uppercut® went into production on or about the time the announcement issued. [redacted] (SUF 56). Allen's announcement goes on to state

> We have done some field testing with this product and the results are terrific. [...] We have engineered the bushing to allow the plunger to travel in a *predetermined angle*, thus shortening the stroke. By controlling the stroke to a tight tolerance we've achieved remarkable accuracies in flush-volume control. This technology is more engineered than you may expect at first glance. (Emphasis added.)

(SUF 54). In other words, Wilson modified the bushing passage to have a predetermined angle in order to achieve a desired reduction in flush volume.

Even if Wilson continued to refine the Uppercut® handle design after the *Wilson* patent application was filed, the evidence establishes that Wilson subjectively preferred the flush volume reduction and the geometry of the bushing passage embodied in the Uppercut® prior to August 25, 2005, because, *inter alia*, Sloan had field tested working prototypes of the Uppercut® in low-consumption fixtures with "terrific results" beforehand (SUF 54-57). A concession that claimed aspects of a commercial embodiment are within the scope of the asserted claims of the patent shows the subjective preference for the commercial embodiment. *Wellman*, 642 F.3d at 1364 (citations omitted).

B. Sloan failed to disclose the angle of the tilted portion in the bushing passage and the amount of water reduction.

The second prong of the best mode analysis is an objective assessment as to whether the inventor "concealed" the preferred mode from the public. *Wellman, Inc. v. Eastman Chemical*

Co., 642 F.3d at 1360. Some earlier decisions analyzing the best mode requirement contain passing reference to intentional concealment, but "the clear weight of Federal Circuit authority holds that intentional concealment is not required for best mode violations." *Ateliers de la Haute-Garonne v. Broetje Automation-USA Inc.*, 817 F.Supp.2d 394, 401 (D. Del. 2011); *see also U.S. Gypsum Co. v. Nat'l Gypsum Co.*, 74 F.3d 1209, 1212-16 (Fed. Cir. 1996) (holding that "inquiry into an intent to conceal, being subjective, is inconsistent with the objective nature of the second [prong] of best mode compliance"); *see also Graco, Inc. v. Binks Mfg. Co.*, 60 F.3d 785, 789-90 (Fed. Cir. 1995) ("specific intent to deceive is not a required element of a best mode defense."); *see also Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1535 (Fed. Cir. 1987) (holding that "only evidence of 'concealment,' whether accidental or intentional, is considered.").

Although intentional concealment is not an element of the best mode inquiry, in this case there is record evidence that Wilson and Sloan actively concealed the inner workings of the Sloan Uppercut® as a valuable trade secret (SUF 64). [redacted] (SUF 64).

Even if the best mode was not intentionally concealed by Wilson in this case, adequacy of disclosure depends on whether a mode "determined through experimentation or selection or trial and error" was disclosed. *High Concrete*, 377 F.3d at 1384 (Fed. Cir. 2004) (citing *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 940 (Fed. Cir. 1990) and *Dana Corp.*

v. IPC Ltd. Partnership, 860 F.2d 415, 419-420 (Fed. Cir. 1988), respectively). Failure to disclose such a mode constitutes concealment of the best mode, as does the omission of information that is essential to the practice of the invention. *Id.* "[I]t is not up to the courts to decide *how* an inventor should disclose the best mode, but *whether* he has done so adequately under the statute." *Spectra-Physics*, 827 F.2d at 1537 (emphasis in original).

The best mode inquiry proceeds on a claim by claim basis. *Pfizer*, 518 F.3d at 1365. All of the asserted claims recite a dual mode flush valve handle comprising a bushing passage that delivers either a full or reduced flush volume of water depending on the direction of handle actuation by having a plunger travel along a horizontal axis or angled axis of plunger travel (SUF 17-19). The Sloan Uppercut® is a dual mode flush valve handle comprising a bushing passage having a tilted portion that delivers either a full or reduced flush volume of water depending on the direction of handle actuation (SUF 53 & 62). The '635 Patent teaches that one way to achieve an angled axis of plunger travel is by adding a tilted portion to a bushing passage. Wilson did not disclose the 30% reduction in flush volume that achieved adequate evacuation of liquid waste from low-consumption systems nor the modification to the bushing passage [redacted] for the Uppercut® (SUF 48-50, 57, 65, 67 & 68).

It is undisputed that the tilted portion in the Sloan Uppercut® is the critical feature that provides the 30% reduction in flush volume, and that neither of these features are disclosed in the '635 Patent (SUF 48-50, 57, 65, 67 & 68). Wilson testified that neither the preferred flush volume reduction of 30% nor the degree of tilt necessary to achieve that preferred volume reduction are disclosed in the patent (SUF 67 & 68). It is not disputed that Sloan manufactures and sells one manual dual flush handle, the Uppercut® (SUF 59). Where, as here, only a single embodiment of the invention is contemplated by the inventor, "information necessary to practice

the best mode [embodied in the commercial embodiment] simply must be disclosed." *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 930 (Fed. Cir. 1990).

The undisclosed aspects of the Sloan Uppercut®, including, at a minimum, its reduction in flush volume and the geometry of its modified bushing passage—materially affected the Uppercut®'s function as a water-conserving, dual mode flush valve. Sloan's failure to disclose either of these parameters effectively concealed the best mode of practicing Wilson's invention.

The Federal Circuit confronted a similar scenario in *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1065-66 (Fed. Cir. 1998). In that case, the inventor failed to disclose "a variety of undisclosed machining parameters [that] were critical to the production" of the preferred embodiment, and the evidence showed that the inventor knew of and preferred these parameters prior to the filing date. *Id.* Here, Wilson preferred a 30% reduction in flush volume, and had experimented for months [redacted] to arrive at the desired geometry that would consistently produce that 30% reduction in flush volume (SUF 54-57). These undisclosed parameters were critical to the production of the preferred embodiment and materially affected the operation of the Uppercut® (SUF 48), and the failure to disclose them constitutes violation of the best mode requirement as a matter of law. *Nobelpharma*, 141 F.3d at 1066 .

The best mode requirement is, first and foremost, a disclosure requirement. "The specificity of disclosure required to comply with the best mode requirement must be determined by the knowledge of facts within the possession of the inventor at the time of filing the application." *Spectra-Physics*, 827 F.2d at 1535. In this case, the flush volume reduction and the degree of tilt in the bushing passage were known to the inventor Wilson as they were embodied in Sloan's only (purported) commercial embodiment of a manual dual flush (SUF 54-57). These

critical parameters were not disclosed (SUF 48-50, 57, 65, 67 & 68). As a matter of law, the omission of these critical parameters constitutes a violation of the best mode requirement. *Chemcast*, 913 F.2d 923 at 930 (holding that "where the inventor has failed to disclose the only mode he ever contemplated of carrying out his invention, the best mode requirement is violated.").

It is likewise immaterial that the 30% flush volume reduction and [redacted] tilt angle are arguably unique to Sloan's systems and would not necessarily be optimal for all manual dual flush systems. In *Spectra-Physics*, the patentee argued that an undisclosed brazing cycle was not a violation of the best mode requirement because it was unique to its ovens, because the performance of industrial ovens varies considerably, and because the actual parameters would be meaningless to someone who used a different oven. *Id.* at 1536 The Federal Circuit disagreed, holding that because the patentee did not disclose *any* details about its brazing process, "this complete lack of detail … effectively resulted in its concealment." *Id.* at 1537.

Any argument that the best mode requirement can be met solely by reference to what was known in the prior art is similarly unavailing. See *Dana Corp.*, 860 F.2d at 419 (holding that the district court erred as a matter of law in concluding that "the best mode requirement could be satisfied by reference to what the prior art discloses."). In *Dana Corp.*, the Federal Circuit held that the best mode requirement "is not satisfied by reference to the level of skill in the art, but entails a comparison of the facts known to the inventor regarding the invention at the time the application was filed and the disclosure in the specification." *Id.* (citing *Spectra-Physics*). Finally, enablement and best mode are *separate* and *distinct* requirements under 35 U.S.C. §112. *See Spectra-Physics*, 827 F.2d at 1532 ("Enablement looks to placing the subject matter of the claims generally in the possession of the public. If, however, the applicant develops specific

instrumentalities or techniques which are recognized at the time of filing as the best way of carrying out the invention, then the best mode requirement imposes an obligation to disclose that information to the public as well.").

It is not disputed that the angle for the Sloan Uppercut®'s tilted portion is what makes the Uppercut® a dual flush valve (SUF 47-52, 57 & 59). It achieves a 30% reduced flush volume in a 1.6 gpf valve because it has a [redacted] tilted portion of the bushing passage, yet this is nowhere to be found in the specification (SUF 47-52, 57, 59, 65, 67 & 68). This concealment constitutes a clear violation of the best mode requirement.

III. ZURN DID NOT WILLFULLY INFRINGE THE '635 PATENT.

Zurn should be granted summary judgment on Sloan's willful infringement claim because Sloan cannot prove that Zurn's non-infringement and invalidity defenses are unreasonable, and cannot explain why it did not file a motion for preliminary injunction.

In order to establish that a patent was willfully infringed, a patentee must show that the accused infringer acted despite "an objectively high likelihood that its actions constituted infringement of a valid patent." *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc). After a showing sufficient to meet his objective prong, the patentee must then show that the objectively high risk was "either known or so obvious that it should have been known to the accused infringer." *Id.* Following *Seagate*, the Federal Circuit established that the objective prong of *Seagate* tends not to be met where an accused infringer relies on a reasonable defense to a charge of infringement. *Advanced Fiber Techs. Trust v. J & L Fiber Svcs., Inc.*, 674 F.3d 1365, 1377 (Fed Cir. 2012); *see also Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1310 (Fed. Cir. 2011) ("If the accused infringer's position is susceptible to a reasonable conclusion of no infringement, the first prong of Seagate cannot be met.").

The defenses to be analyzed for reasonableness include all of the defenses raised by the accused infringer, not merely those that were identified before the complaint was filed. *Minemyer v. R-Boc Reps., Inc.,* 07-civ-1763, 2012 U.S. Dist. LEXIS 82272, at *37-38 (N.D. Ill. June 13, 2012) ("What is relevant under Federal Circuit precedent can include defenses that the infringers were completely unaware of at the time they set about [infringing the patent]."). For example, if an accused infringer's proposed claim constructions were reasonable, a court may "foreclose a finding of willfulness." *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1374 n.4 (Fed Cir. 2008); *Goss Int'l Ams., Inc. v. Graphic Mgt Assoc., Inc.*, 739 F.Supp.2d 1089, 1126 (N.D. Ill. 2010). An accused infringer's defenses need not be successful to be reasonable. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1337 (Fed. Cir. 2009); *John T. Minemyer,,* 2012 U.S. Dist. LEXIS 82272, at *38.

Determining whether the objective prong of *Seagate* has been met is a question of law. *C.R. Bard*, 682 F.3d at 1005. If the objective prong is not met, the subjective prong is not to be considered. *DePuy Spine*, 567 F.3d at 1335-1337 (Fed. Cir. 2009). Construing all facts in favor of Sloan, as shown in this motion, Zurn has reasonable defenses to literal infringement, infringement under the doctrine of equivalents and credible invalidity and unenforceability positions.

A. Sloan never sought a preliminary injunction.

As an initial matter, independent of Zurn's possession of reasonable defenses to infringement and credible invalidity and unenforceability arguments, Sloan cannot succeed on its claim for willful patent infringement on two separate grounds. First, Sloan declined to seek a temporary injunction at any point (SUF 8). *See In re Seagate*, 497 F.3d at 1374 ("A patentee who does not attempt to stop an accused infringer's activities in this manner should not be

allowed to accrue enhanced damages based solely on the infringer's post-filing conduct."); see also *MasterObjects, Inc. v. Google, Inc.*, 11-civ-1054, 2013 U.S. Dist. LEXIS 63850, at *4 (N.D. Cal. May 2, 2013); see also *Goss Int'l Am., Inc.*, 739 F.Supp.2d at 1125 n. 13.

B. Sloan relies on improper and unreliable expert testimony for its willfulness case.

Regardless of Sloan's failure to seek an injunction, Sloan cannot succeed on its claim for willful infringement because Sloan's only basis for willful infringement are an unsupported assertion of copying, an unsubstantiated and irrelevant attack on the basis of Zurn's competent opinion of counsel, and a legal conclusion supported by incorrect facts.

As explained further in Zurn's *Daubert* Motion directed to Thuma, Sloan intends to rely on Thuma's testimony, rather than actual evidence, to show that Zurn copied the accused product from Sloan's Uppercut®. Because Thuma offers only speculation and conjecture as to what *could* have happened in the Zurn dual flush handle development process, and because he failed to rebut (or even review) the testimony of Zurn's witnesses who testified that Zurn did not copy the Sloan Uppercut®. *See* Thuma *Daubert* at 7-9. In any event, Sloan has not provided any evidence that would tend to show copying, and even if it had, its allegations of copying fail to create an issue of fact because copying is a consideration only for determining the second, subjective prong of *Seagate*.

Sloan's only other offering to support its willfulness claim are the expert reports of Edward Caulfield and Harry Gwinnell. The Caulfield report attempts to minimize the competent opinion of counsel that Zurn obtained prior to issuance of the '635 Patent. As explained in Zurn's *Daubert* Motion directed to Caulfield, Sloan intends to rely on Caulfield's testimony, which is not grounded in any relevant experience in the manufacture of flush valves or

repeatable testing, to show that it was not reasonable for Zurn to rely on the opinion it received. *See* Caulfield *Daubert* at 2-7. Sloan's reliance on any testimony that Gwinnell may offer is similarly misplaced, because Gwinnell would offer only legal argument, which is improper, and any opinion he could offer as to reexamination would be of no value given his lack of experience and lack of knowledge of the relevant standards for willful infringement and reexamination. *See* Gwinnell *Daubert* at 3-5, 10-13.

Even if Sloan's experts were not excluded, as Sloan cannot meet the objective prong of *Seagate*, its claim for willfulness must fail as a matter of law.

C. Zurn's defenses to infringement are reasonable.

As the Federal Circuit has held, reasonable claim construction positions that support a non-infringement position are to be taken into account when assessing the objective *Seagate* prong. *Cohesive Techs., Inc.*, 543 F.3d at 1374, n.4; *see also Goss Int'l Am., Inc.*, 739 F.Supp.2d at 1126. In *Cohesive*, the accused infringer reasonably believed that the patentee disclaimed polymeric particles as being rigid. *Cohesive Techs., Inc.*, 543 F.3d at 1374; *Goss Int'l Am., Inc.*, 739 F.Supp.2d at 1126. The Federal Circuit disagreed with the accused infringer as to the patentee's disavowal, but still found that its position was reasonable, and would have supported the accused infringer's non-infringement defense. *Id.*

Here, Zurn's proposed constructions were objectively reasonable, as evidenced by the Court's adoption of at least part of Zurn's constructions for the terms "a first flush volume of water…and…a second flush volume of water", "plunger mounted for sliding and tilting", "tilting the inner end of the plunger", "axis of plunger travel", and "displaced away from a center of the horizontal axis of travel such that an end view of the shank is displaced from the horizontal axis

of travel" (SUF 86). Sloan argued that the claim terms concerning axes of plunger travel should be construed in terms of a first and second bushing bore (Dkt. 326 at 16-17), whereas Zurn successfully argued that the claims should be construed in terms of how the plunger actually travels through the bushing (SUF 86). These constructions are also central to Zurn's reasonable non-infringement positions (*see* Section I *supra*).

Zurn's defenses to infringement, based on Sloan's narrowing amendments and arguments, reasonable claim construction and, extensive technical testing, can hardly be considered "the stuff of which objectively reckless unreasonable conduct is made." *Uniloc USA, Inc.*, 632 F.3d at 1311. Rather, Zurn's (SUF 45) and Sloan's (SUF 37 & 39) testing show that Zurn's products do not meet each limitation of the asserted claims, and thus do not infringe those claims (*see* Section I, *supra*). The accused products do not meet a limitation so prevalent in this case that Zurn filed this motion for summary judgment because, as a matter of law, the accused devices do not infringe the asserted claims. Sloan cannot show that Zurn's defenses are frivolous or not reasonable, thus the Court should dismiss Sloan's claim of willful infringement. *DePuy Spine*, 567 F.3d at 1335-1337 (declining to address the subjective prong of *Seagate* when the objective prong had not been met).

D. Zurn has credible invalidity and unenforceability positions.

In addition to its reasonable non-infringement position, Zurn has credible arguments that the asserted claims of the '635 patent are invalid. Zurn asserts that claims 1, 4-8, 10-12, 14, 19, 29-31, and 33-34 of the '635 patent are invalid under one or more of 35 U.S.C. §§ 103 and 112 (SUF 6). Zurn's best mode and enablement defenses are credible because the inventor possessed the Uppercut® before filing the application, but failed to disclose critical dimensions, and

because Sloan incorrectly assumed that plunger travel is defined by the bushing geometry (SUF 47-72) (*see* Section II, *supra*).

Zurn contends that claims 12 and 14 are invalid as obvious over new or worn flush valves that were in public use more than one year prior to the date that the '273 application was filed in view of United States Patent No. 4,134,570 to Walker ("Walker") (SUF 7). The prior art flush valves meet each of the limitations of claim 12 except for the limitations of the preamble that the system is "for operating a water flush valve in a plurality of user selectable flush volume modes" recited in claim 12 (SUF 7). This limitation is met by Walker, which discloses a dual mode flush valve (SUF 7). It would have been obvious to one of skill in the art to combine the user-selectability of Walker with the known prior art flush valves, because it was known in the art that actuation of the handle of a flush valve in the upwards direction produces a reduced flush volume and one of skill would be aware of the Walker patent and its teaching of providing user-selectability for saving water. *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. 398, 414 (2007). Zurn's invalidity defenses are supported by the Report of Dr. Richard Magee Regarding Invalidity of U.S. Patent No. 7,607,635. They are credible defenses grounded in information that has been known in this field for years prior to the filing date of the '273 application. Flush valves inherently dispense different volumes of water depending on whether the handle is actuated in an upwards direction or a downwards direction (SUF 13), and tolerance in bushings permits plungers to move along multiple paths of travel (SUF 14), thereby making all flush valves dual mode when combined with Walker.

Zurn's invalidity positions have been buttressed by repeated testing and review of the prior art and review of the applicable law, and are "hardly the stuff of which objectively reckless unreasonable conduct is made." *Uniloc USA, Inc.*, 632 F.3d at 1311.

In addition, Zurn also has a reasonable unenforceability position that has survived motions to dismiss (*see* Dkt. 279; Dkt. 447 at pp. 7-10). Specifically, Sloan and its prosecution counsel withheld test results from the Patent Office that would anticipate at least claim 23 of the '635 patent (*see* Dkt. 447 at pp. 7-10).

E. Zurn successfully sought reexamination of the '635 Patent

Another factor that favors a grant of summary judgment of no willful infringement is Zurn's successful request for *ex parte* reexamination of the '635 patent (SUF 79 & 80). Since *Seagate*, courts have found that a grant of reexamination is a factor to be considered when assessing whether an accused infringer acted in an objectively reckless manner. *See, e.g., Plumley v. Mockett*, 836 F.Supp.2d 1053, 1075 (C.D. Cal. 2010); *TGIP, Inc. v. AT&T Corp.*, 527 F.Supp.2d 561, 579 (E.D. Tex. 2007); *Lucent Techs., Inc. v. Gateway, Inc.*, 02-civ-2060, 2007 U.S. Dist. LEXIS 95934, at * 18 (S.D. Cal. Oct. 30, 2007), .[3] At least one court has held that the rejection of claims during reexamination, even if the claims are eventually allowed, is sufficient to make summary judgment of no willful patent infringement appropriate. *Tesco Corp. v. Weatherford Int'l, Inc.*, 750 F.Supp.2d 780, 818 (S.D. Tex. 2010); see also *TGIP, Inc.*, 527 F.Supp.2d at 579 .

Here, Zurn's request was based on another reasonable theory, that the prior art (i.e. the patent to Billeter) teaches handles with bushings that have a larger diameter than the diameter of the plunger, thereby allowing two different axes of plunger travel (SUF 79). As a result of this

[3] The Federal Circuit's decision in *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575 (Fed. Cir. 1996), and this Court's decision in *Krippelz v. Ford Motor Co.*, 675 F.Supp.2d 881 (N.D. Ill. 2009) do not compel a different result. Rather, *Hoechst* was decided prior to the change in law promulgated by *Seagate*.

request, the Patent Office rejected, *inter alia*, asserted claims 1, 5, 7, 8, 12, 14, 19, and 31 (SUF 80). Sloan had to amend claims 1, 12, and 18 to overcome the rejections, and had to narrow the scope of all of the asserted claims through its arguments that flexible bushings preclude the presence of a horizontal axis of plunger travel (SUF 82) (*see* Section II.B, *supra*). Sloan's amendments to the claims during reexamination, which were made to overcome the prior art, warrant summary judgment of no willful infringement. *Tesco Corp.*, 750 F.Supp.2d at 818. Moreover, to the extent that this fact is not dispositive, Sloan's efforts to overcome the rejections form the basis of one of Zurn's presently asserted, reasonable non-infringement defenses.

In view of the foregoing, Sloan cannot prove by clear and convincing evidence that Zurn acted despite an objectively high likelihood that its actions constituted infringement of the '635 patent. Zurn has reasonable defenses to infringement and credible invalidity arguments, as shown in Zurn's opinion of counsel, the rejection of claims during reexamination, and the close question on claim construction. Accordingly, summary judgment in Zurn's favor is appropriate.

IV. ZURN SHOULD BE GRANTED SUMMARY JUDGMENT DISMISSING SLOAN'S COMPENSATORY DAMAGE CLAIMS.

A. Sloan's Damage Theory.

Sloan purports to base its compensatory damages case on a reasonable royalty theory. Sloan's damages expert, Richard Bero, opines [redacted] As explained in more detail in Zurn's accompanying Motion to Exclude

Bero's Opinions under *Daubert*, [redacted]

[redacted]

B. Sloan Is Not Entitled to Damages Based on Lost Profits Because It Is Undisputed That There Were Acceptable Non-Infringing Alternatives.

"To recover lost profits, the patent owner must show 'causation in fact,' establishing that 'but for' the infringement, he would have made additional profits." *Grain Processing Corp. v. Am. Maize-Products Co.*, 185 F.3d 1341, 1349 (Fed. Cir. 1999). The patentee can recover lost profits based on all of the infringing sales only if it proves there were no acceptable non-infringing substitutes that the customers who purchased Accused Products might have purchased instead of buying the patentee's patented products. *See SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 926 F.2d 1161, 1166 (Fed. Cir. 1991); *see also Grain Processing Corp.*, 185 F.3d 1341, 1355 (Fed. Cir. 1999) ("Consumer demand defines the relevant market and relative substitutability among products therein."); *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978).

[redacted]

[redacted] As a result, Sloan cannot prove that "but for" Zurn's alleged infringement, the customers who purchased Accused Products would have purchased patented products from Sloan – some, many, or all may have purchased the non-infringing substitutes instead. It follows that Sloan is not entitled to any of the lost profits Bero includes in his royalty calculations.

C. Sloan Is Not Entitled to a Royalty Based on the Full, Unapportioned Profits Lost on Sales of Sloan's Patented Products.

Sloan's royalty claim should also be dismissed because [redacted] Where an accused product includes both patented and unpatented features, "the patentee ... *must* in every case give evidence tending to separate or *apportion* the defendant's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative." *Uniloc*, 632 F.3d at 1318, quoting *Garretson v. Clark,* 111 U.S. 120, 121 (1884).

This rule prevents the jury from awarding the patentee damages in excess of the value of the patent's contributions to the art. The rule applies whether the patentee seeks damages based on lost profits or a reasonable royalty. *See Uniloc*, 632 F.3d at 1315 (enforcing apportionment rule in reasonable royalty context). And, it applies even if the reasonable royalty is calculated on a per-unit basis. *Lucent Technologies, Inc. v. Microsoft Corp.*, 07-civ-2000, 2011 U.S. Dist. LEXIS 75504 (S.D. Cal. July 13, 2011) (rejecting patentee's attempt to avoid apportionment by calculating damages on per-unit basis).

It is undisputed that each of the patented and accused products includes features that are not covered by the '635 Patent [redacted] Thus, as the Supreme Court explained in *Garretson*, Bero had to limit his reasonably royalty calculations to the portion of the total profits on sales of MDF valves that is properly attributable to the value of the *improvement* the patented invention has added to the essential usefulness of the manual single flush valve. *Garretson*, 111 U.S. at 121.

D. Sloan Cannot Invoke the "Entire Market Value Rule."

There is only one exception to rule requiring apportionment. The exception – known as the Entire Market Value Rule (EMV Rule) – applies if the patentee proves that "the patented feature creates *the* basis for customer demand," i.e., "the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature." *Uniloc*, 632 F.3d at 1318 (emphasis added).

This exception is narrow. Patent owners who assert the EMV Rule must prove by an "exacting standard" that the patented feature is *the* basis for customer demand, not simply a substantial basis for demand: "It is not enough to present evidence that the patented feature was desirable, or that it played some role – even a substantial role – in the customer's decision to purchase a system containing the infringing product." *Inventio AG v. Otis Elevator*, 06-civ-5377, 2011 U.S. Dist. LEXIS 88965 *4 (S.D.N.Y. June 23, 2011); *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 69 (Fed. Cir. 2012). The patented feature "must be of such

paramount importance that it substantially created the value of the component parts – thereby making it '*the* basis for customer demand.'" *Inventio*, 2011 U.S. Dist. LEXIS 88965 at *6; *see also Cornell University v. Hewlett-Packard Co.*, 01-civ-1974, 2008 U.S. Dist. LEXIS 41848, at *5-6 (N.D.N.Y. May 27, 2008) (Rader, C.J. sitting by designation) ; *IP Innovation v. Red Hat, Inc.*, 705 F.Supp.2d 687, 690 (E.D. Tex. 2010) (Rader, C.J. sitting by designation).

Not only is the EMV Rule exacting, the evidentiary burden is great. Patentees must prove the basis for customer demand through econometric studies, admissible customer surveys, regression analyses, or other fact-based evidence of demand sensitivities. *LaserDynamics, Inc.*, 694 F.3d at 69; *Inventio*, 2011 WL 3359705 *4; *Cornell Univ.*, 2009 U.S. Dist. LEXIS 41408, at *5-6; *IP Innovation*, 705 F.Supp.2d at 690.

Sloan has no such evidence. [redacted] It follows that the patented invention is not *the* basis for consumer demand, and Sloan cannot invoke the EMV Rule to excuse Bero's failure to apportion.

E. Sloan Is Not Entitled to a Royalty Based on Profits Lost on Collateral Goods.

Sloan cannot calculate its alleged reasonable royalty rate by reference to profits Sloan would earn on sales of unpatented, "collateral" products (urinal valves, urinal valve diaphragms and faucets). The law is also unambiguous about this equally important rule: A patentee can only include profits earned on sales of both infringing products and non-infringing collateral products in its royalty calculations if the patentee satisfies the EMV Rule, and *further* proves that the infringing and non-infringing products constitute a "functional unit." *Cornell Univ.. v. Hewlett-Packard Co.*, 609 F.Supp.2d 279, 286-87 (N.D.N.Y. 2009) *amended*, 01-civ-1974, 2009 U.S. Dist. LEXIS 41408 (N.D.N.Y. May 15, 2009) (citations omitted). It is not enough that the infringing and non-infringing parts are sold together for mere business advantage. *Id.* These are the same conditions that apply where the patentee seeks to prove lost profit damages (as Bero did), instead of a reasonable royalty (as Bero claims he did). See *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1550 (Fed. Cir. 1995).

[redacted]

Bero claims that these conditions do not apply to his analysis because he relies on one of the *Georgia Pacific* factors – Factor 6 – sanctioning consideration of "the effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such

derivative or convoyed sales." *Georgia-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

Bero is wrong. Whether he was entitled to nudge his reasonable royalty rate up or down under Factor 6 to account *qualitatively* for Sloan's expectation of additional collateral sales in negotiating a license with Zurn, the law unambiguously prohibits using so-called convoyed sales of unpatented products under Factor 6 to *quantitatively* calculate royalty damages, unless the patentee can satisfy the EMV Rule *and* the "functional unit" test. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co Ltd.*, 88-civ-1814, 1993 U.S. Dist. LEXIS 21434 (D. Mass. Apr. 27, 1993) ("[Convoyed sales] do not create a separate sum on which the royalty is calculated."); *Cornell*, 609 F.Supp.2d at 286-87.

Moreover, the collateral, or "convoyed" sales at issue in Factor 6 must occur simultaneously with the sale of the Accused or patented product – not before or after[4] – and the sale of the product that incorporates the patented invention must cause the sale of the collateral good – not the other way around. *Carborundum Co. v. Molten Metal Equip. Innovations, Inc.*, 72 F.3d 872, 882 (Fed. Cir. 1995) ("The expression 'convoyed sales' should preferably be limited to sales made simultaneously with a basic item."); *Inline Connection Corp. v. AOL Time Warner Inc.*, 470 F.Supp.2d 424, 432-33 (D. Del. 2007) ("Convoyed sales occur when the sale of one thing is likely to cause the sale of another."). [redacted] And, because Bero failed to perform any analysis of consumer demand

[4] The other type of collateral sales at issue in Factor 6 – "derivative" sales – are limited to replacement, spare and wear parts. *Carborundum Co.*, 72 F.3d at 882.

sensitivities, he has no reliable data showing whether faucet sales caused MDF valve sales, whether any causal connection was vice versa, or whether there was any causal connection at all (SUF 101). It follows that Sloan cannot include lost profits on sales of urinal valves, urinal valve diaphragms, and faucets in calculating its per-unit royalty.

F. Sloan Is Not Entitled to Damages Based on Price Erosion.

In addition to the "price effect" lost profits Bero adds to Sloan's royalty rate, Bero calculates "additional price erosion damages" to account for the fact that Sloan would have charged more for its patented products but for competition from Zurn (SUF 102). In calculating the "price effect" and the "additional price erosion damages," [redacted]

As a matter of law, this evidence is insufficient. (*See* Zurn's *Daubert* Motion to Exclude Testimony of Julius Ballanco Section IV(B).) Sloan, through Bero or otherwise, was obligated to conduct a scientific analysis of price elasticity to include either form of price erosion damages – the "price effect" Bero included in the royalty rate, or his "additional price erosion damages."

Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc., 246 F.3d 1336, 1359-60 (Fed. Cir. 2001). A patentee who seeks price erosion damages (a form of lost profits) has the burden of proving that "but for" infringement, (1) it would have sold its product at higher prices *and* (2) the quantity it would have sold at the higher prices. *Id.* at 1357. Because "[a]ll markets must respect the law of demand" according to which "consumers will almost always purchase fewer units of a product at a higher price than at a lower price, possibly substituting other products," the patentee "must produce credible economic evidence to show the decrease in sales, if any, that would have occurred at the higher hypothetical price." *Id.* at 1359.

Sloan cannot satisfy this burden based on [redacted] Sloan has to prove as much with sound economic evidence: "In a credible economic analysis, the patentee cannot show entitlement to a higher price divorced from the effect of that higher price on demand for the product. In other words, the patentee must also present evidence of the (presumably reduced) amount of product the patentee would have sold at the higher price." *Id.* at 1357. Sloan made no attempt to present any such evidence. And as explained in Section I(B), above, [redacted]

G. Sloan Is Not Entitled to a Royalty Based on Profits Lost During the Provisional Rights Period.

Finally, Bero mistakenly opines that Sloan is entitled to damages for every Accused Product Zurn sold during the "provisional rights" period, before the '635 Patent issued (SUF 108). Bero sets his hypothetical negotiation in October 2006 (when Zurn first became aware of the '729 Patent Application), calculates Sloan's lost profits for all pre-issuance Accused Sales from October 2006 through October 2009 (when the patent issued), and includes those lost profits in his royalty rate in calculating Sloan's damages based on the same pre-issuance Accused Sales (SUF 109-110). By law, he cannot do so.

Section 154(d)(1) of title 35 U.S.C. – the statute that authorizes recovery of pre-issuance, provisional rights – exclusively limits the remedies available to a royalty, barring lost profits and price erosion theories of recovery: "a patent shall include the right to obtain a reasonable *royalty* from any person who, during the period beginning on the date of publication of the application for such patent . . . , and ending on the date the patent is issued . . . makes, uses, offers for sale, or sells in the United States the invention as claimed in the published patent application . . . ." The statute does not authorize the broader damages made available by 35 U.S.C. § 284, under which patentees can obtain lost profits damages. (Section 284 authorizes the award of "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty . . . .") The provisional rights statute also limits recovery to what would constitute direct infringement of an issued claim – theories akin to inducing or contributing to direct infringement by others cannot support a claim for provisional rights. *See The New Provisional Rights Provision*, 82 J. Pat. & Trademark Off. Soc'y 742, October 2000 (because contributory and induced infringement are specifically addressed in other sections of the Patent Act, but not

mentioned in connection with provisional rights, provisional rights do not apply to pre-issuance inducing or contributory acts).

Sloan fails to honor these statutory limitations by affirmatively seeking compensation for profits lost during the provisional rights period, including in the form of the "price effect" price erosion damages encompassed within Bero's per unit royalty on Accused Sales from October 2006 through October 2009 (SUF 110). As a matter of law, Sloan is not entitled to these lost profit damages under 35 U.S.C. § 154(d)(1).

Moreover, the undisputed facts confirm that Sloan is not entitled to any remedy under the provisional rights statute based on Zurn's unit sales of Accused Products. To receive a remedy under the provisional rights statute, Sloan must prove that the invention as claimed in the '635 Patent is "substantially identical to the invention as claimed in the published patent application." 35 U.S.C. § 154(d)(1) - (2). As the Court has previously held, no apparatus claims of the published '635 Patent application survived in substantially identical form (Dkt. 412). The only claims of the '635 Patent that survived the application process in substantially identical form are two method claims, Claims 7 and 8 (SUF 111). Accordingly, Sloan is not entitled to a remedy under the provisional rights statute for sales of products that allegedly practiced the published apparatus claims.

Bero assumes for his analysis that all of Zurn's Accused Sales during the provisional rights period were subject to damages because: (1) the Accused Products were covered by a published apparatus claim, (2) [redacted]

[redacted] or (3) because Zurn's Accused Sales induced someone else to practice one of the published method claims (SUF 112).

As a matter of law, only the second scenario could possibly support any remedy based on every Accused Sale during the provisional period. The facts, however, are that the second scenario did not happen. After years of intensive discovery, there is no genuine dispute that, at most, Zurn directly practiced the method claims on three discrete occasions during the provisional rights period. [redacted] Because there is no evidence to support any of the provisional remedies Sloan seeks, and certainly not any evidence to support the royalty Sloan seeks on each (non-infringing) Accused Sale during the provisional rights period, Zurn is entitled to summary judgment.

CONCLUSION

For these reasons, Zurn respectfully requests that this Court enter summary judgment in Zurn's favor and against Sloan as follows: Zurn does not infringe any of the asserted claim (claims 1, 4-8, 10-12, 14, 19, 29-31, 33 and 34) of the '635 Patent, and therefore, all of Sloan's claims should be dismissed; the asserted claims are invalid under 35 U.S.C. § 112, first paragraph, for failing to comply with the best mode requirement; and therefore all of Sloan's claims should be dismissed; Zurn did not willfully infringe any of the asserted claims of the '635

Patent; Sloan is not entitled to recover lost profits or lost-profits-related damages of the sort it has asserted as compensatory damages as part of its per unit royalty; Sloan is not entitled to recover a reasonable royalty from Zurn for every accused devices Zurn sold during the "provisional rights" period before the '635 Patent issued; Sloan Count II should be dismissed; and for such other and further relief as this Court deems just and proper.

Patent; Sloan is not entitled to recover lost profits or lost-profits-related damages of the sort it has asserted as compensatory damages as part of its per unit royalty; Sloan is not entitled to recover a reasonable royalty from Zurn for every accused devices Zurn sold during the "provisional rights" period before the '635 Patent issued; Sloan Count II should be dismissed; and for such other and further relief as this Court deems just and proper.

Respectfully submitted,

Dated: June 10, 2013

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CERTIFICATE OF SERVICE

I hereby certify that on June 10, 2013, I caused to be served electronically via a shared file the foregoing BRIEF IN SUPPORT OF DEFENDANTS' MOTION FOR SUMMARY JUDGMENT upon the following interested parties.

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